ชื่อเรื่อง **Use of Vetiver Grass as a Filter in the Process of Ground Water Recharge Through Open Wells**

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ปีที่ดำเนินการ

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Abstract

To solve the vital problem of constantly receding ground water in the plateau regions of Malwa & Nimar (Western Madhya Pradesh), an attempt has been made to collect surface runoff water filtering the water at various stages in to an unconfined aquifer specifically by passing through the network of vetiver grasses provided as biological filter on the bed and side of the drains. The studies were performed from 1990-95 at Jawaharlal Nehru Agricultural University campus Indore. Integrated Soil & Water Conservation Techniques were used to maintain the water level in the open wells viz, Technique of water spreading and recharge through direct water injection. Water spreading techniques contributed 23% to the ground water recharge while injective techniques contributed 77%. An average annual recharge for the five hydrologic Years (1990-91 to 1994-95) was 60308m3. Total amount of water drawn from the ground water sources (average annual value was 56554m3) for an average annual rainfall 0.977m during this period. Similarly, two year's average annual rainfall and draft of water from ground water sources recorded during 1988-89 to 1989-90 was 852m3 and 21710m3 respectively. After adoption of integrated water conservation techniques 34844m3, about 1.6 times, increase in the water reserves in the wells is achieved. It was found that out of 50308m3 water additionally recharged 34844m3 could be recouped which forms 69% of the average recharge value. Vetiver grass has provided an excellent filtering effect.